

DETAILED ACTION

Applicant's arguments filed 4/03/2008 for claims 9-12 have been fully considered but they are not persuasive. Regarding the argument that the prior art has no mention of an ion generator, the Mamontov reference discloses the use of a metal nitrate in a metal acid. The examiner interprets a nitrate in an acidic media to be an ion generator. Regarding the argument that the prior art has more steps than the instant application, the Examiner interprets the word comprising in claim 9 to be open ended. The word comprising includes the steps that are listed, but does not limit the claim to only the limitations listed. Therefore, if the prior art contains the listed limitation, the fact that other steps are included in the prior art is not a persuasive argument.

Applicant's arguments with respect to claims 13-14 and 17-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mamontov SU 923961.

Regarding claim 9, Mamontov teaches a method for removing organic nitrogen from an aqueous liquid, said method comprising:

Art Unit: 1797

adding a nitrosonium ion generator into said aqueous liquid to remove nitrogen from organic-based nitrogen contaminants at a controlled temperature. (Abstract)

Regarding claim 10, Mamontov teaches a method as claimed in claim 9, wherein the nitrosonium ion generator is a nitrous acid or a nitrite in an acidic media. (Abstract)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 1797

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota et al. US 2004/0104181 A1 in further view of Ding et al. US 6,720,283.

Regarding claim 13, Shiota teaches a method for removing contaminants from an aqueous liquid, said method comprising:
adding a peroxide in the presence of an activated carbon catalyst at a controlled pH to oxidize and remove organic and inorganic contaminants, (0063) *The Examiner interprets adding peroxide to the activated carbon catalyst to be in the presence of the catalyst*. But does not teach wherein the catalyst is used as a particulate in a fixed bed reactor or moving bed reactor caused by the motion of fluid or gases, or by mechanical means through which the aqueous liquid to be treated comes in continuous contact with the catalyst in the presence of the peroxide. Ding does disclose the use of an activated carbon catalyst used in a fixed bed reactor. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fixed bed reactor, since it is known in the art to be an effective way to support activated carbons. It is within the ordinary skill of one in the art to use known methods for activated carbons.

Regarding claim 14, Shiota in view of Ding disclose a method as claimed in claim 13, wherein the peroxide is hydrogen peroxide. (0064 Shiota)

Regarding claim 17, Shiota in view of Ding disclose a method as claimed in claim 13, wherein the controlled pH a pH range is selected from a pH range of 2 to 12. (0113 Shiota) *The Examiner interprets that the ph can be suitably adjusted to mean the pH is controlled.*

Regarding claim 18, Shiota in view of Ding disclose a method as claimed in claim 14, wherein the controlled pH range is selected from a pH range of 2 to 12. (0113) (251)

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Momontov as applied above in claims 9 and 10 above.

Regarding claim 11, Mamontov teaches a method as claimed in claim 9, but not wherein the controlled temperature is between 0° to 100°C. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the controlled temperature between 0° to 100°C, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 12, Mamontov teaches a method as claimed in claim 10, but not wherein the controlled temperature is between 0° to 100°C. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the controlled temperature between 0° to 100°C, since it has been held that where the general

Art Unit: 1797

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMERON J. ALLEN whose telephone number is (571)270-3164. The examiner can normally be reached on M-Th 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJA

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797